

Remarks

Restriction of Claims

The applicants previously elected claims 1-33 for prosecution and have withdrawn claims 34-40 from consideration.

Drawings

The drawings were objected to under 37 CFR 1.83 (a) as failing to show every element of the claimed invention. Specifically claims including a robotic stage, alignment pins, adjustable stop and control unit required to be shown or canceled from the claims. The claims have been amended so that these features are not included. In the case of claim 26, the adjustable stop has been amended to be a means for positioning the manifold. One illustrated means is element 700 in Figures 21 and 22. Given the changes to the claims, no new drawings are required.

Section 112

Claims 1-33 were rejected as indefinite for failing to point out and distinctly claim the invention.

Specifically, in Section 5 of the Office action, claims 1 and 33 were rejected because the tube in tube assembly was not recited as part of the manifold. The applicants note that the manifold and tube in tube assembly are separate elements. Claims 1 and 33 have been amended to clarify the structural relationship between these two elements.

Section 6 finds claims 1, 19, and 33 as indefinite due to a lack of a structural relationship between the manifold and the injector, and the vacuum source and both these elements. Claims 1, 19, and 33 have been amended to indicate that both the manifold and injector are mounted on an arm in a defined structural relationship. The claims were

also amended such that it is clear that the vacuum source is introduced through the manifold and distributed through the tube in tube assembly.

Section 7 finds claim 33 indefinite because the term "opposed openings" was found to be unclear. This term has been removed from claim 33.

Section 8 finds claims 1-33 indefinite because the compartments of the first chamber were not distinguished from the compartments of the second chamber. The applicants respectfully note that these element are not a part of all of claims 1-33. In the selected claims that include compartments, the claims have been amended to adopt the suggestion of the Office action of claiming first compartments and second compartments for the claims that include compartments.

Section 9 found claims 8 and 14 indefinite. These claims have been canceled.

The present amendments clarify any indefiniteness within the claims and put the claims in condition for allowance.

Obviousness

The sole remaining issue is whether the applicants' claims are rendered obvious in light of a combination of cited references and thus are not allowable under 35 USC 103. An analysis of the cited references indicates that reconsideration is warranted.

To establish a prima facie case of obviousness, a teaching or suggestion to make the claimed combination and a reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

No proper teaching to combine is cited.

The obviousness rejections should be reconsidered because there is no proper teaching for the combination of the cited references. "Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight based obviousness analysis is a rigorous application of the requirement for a showing of the teaching or motivation to combine the prior art references." In re Dembicza, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (internal citations omitted). "The showing must be clear and particular. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence'." The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). In applying this law to the present claims, a finding of obvious should be reconsidered and withdrawn.

A. No clear and particular teaching to combine exists.

The law requires a clear and particular teaching to be found in the cited references. Such a teaching must come from the references. In addition, broad conclusory statements are deemed not sufficient. However such broad 'conclusory' statements are all that are proffered in the present Office action.

All of the present obviousness rejections of Office action sections 13-17 require the combination of two key references: Namba et al. and Kalra et al., with some section further requiring additional references. The reason for combining the references is stated in the Office action as:

"it would have been obvious . . . to include an injector [as taught in Kalra et al.] in the apparatus of Namba et al. for the disclosed advantage of having a readily programmable automated apparatus capable of performing additional and several function in a single operation without user intervention, wasteful use of solutions, and cross contamination as taught by Kalra et al. (col. 2, lines 5-53). Prior to this citation, Namba et al. is cited for the teaching of a manifold and a tube in tube assembly. Kalra et al. is then next cited for the addition of an injector. The three reasons cited in the Office action, the objects of the invention of Kalra et al., are all self laudatory language in Kalra et al. to describe the functionality of the system disclosed by Kalra et al. Nothing in this section specifically suggests the addition to Kalra et al. of either the specific manifold and tube in tube assembly or even the more general means for washing a microchannel. Instead what are proffered in the Office action as a motivation to combine are very broad conclusory statements. Such statements could lead to the combination of almost any two system elements, given that the additional item that would be combined with the teachings of Kalra et al. would almost undoubtedly "add additional and several functions". Without a specific teaching leading to the addition of a manifold and tube in tube assembly, a specific teaching to combine the references fails to meet the legal standards. Without such a specific teaching to combine, the cited combination is not proper and should be withdrawn.

B. Kalra et al. specifically teach away from the combination with Namba et al.

As noted in the Office action, Kalra et al. includes as an object of the invention the prevention of cross contamination. In this same section Kalra repeatedly makes clear that the object of Kalra et al. is to automate and

simplify the handling of slides. (col. 2, lines 5-53). So Kalra et al. implicitly instructs readers to avoid any device that would make cross contamination of slides more likely. Namba et al. disclose a bank of tubes (a tube in tube assembly) in which a wash solution is applied to a number of parallel locations. Such a system appears to inevitably lead to cross contamination, given the effect of using the technology of Namba et al. on the substrates disclosed in Kalra et al.

Namba et al. is cited in the Office action for the teaching of a manifold and a tube in tube assembly. The use of such an assembly in the cited reference is to rapidly wash a plurality of locations. Presumably this is the functionality added by this reference to Kalra. However, Kalra et al. already discloses a means for washing the substrate (see Kalra, col. 5, lines 7-30). This teaching of Kalra et al. leads away from the further inclusion of any other means for washing the slides, given that such additional systems would only add cost and complexity without adding functionality.

Rather than having specific teachings that would lead to the combination of the two references, the actual teachings lead away from such a combination. An obviousness rejection should not be predicated on such an improper combination.

C. The Proposed combination renders Kalra et al. Unfit for its Intended purpose.

As further outlined in the case law cited above, the requirements for a teaching to combine should be rigorously applied. Certainly, if the proposed combination makes one of the two cited references unfit for its intended purpose, such a cited combination is per se improper.

Kalra et al., as noted above, disclose a system for processing slides holding tissue samples. Any washing system

to be combined with this reference must be adaptable to slide processing. However a tube in tube assembly would either be pointless duplication or would require slides in rather close proximity as the tube in tube/manifold combination dispensed and aspirated liquid. However such a system would inevitably lead to contamination, the exact problem which Kalra et al seek to address.

In every analysis, the references should not be combined. There is no clear and particular citation supporting the combination, a review of the entire teachings of the references indicates that one reference actually teaches away from the combination with the other, and the cited combination leads to adverse consequences that one of the cited references seeks to avoid. Every indication is that the cited combination should not be made. Given the lack of a properly established teaching to combine the references, the rejection should be reconsidered and withdrawn.

The asserted references do not render obvious the applicant's claims.

Even if the references are combined, this combination does not render obvious the applicants' claims.

The Office action repeatedly states that the analytical substrate has not been positively recited in the claims, such that the recitation of associated elements will not be accorded patentable weight.

The applicants agree that the substrate is not a claimed element. In claiming a novel sewing machine, an applicant would not be forced to also claim the cloth the machine sews. In a similar manner, an applicant in claiming a substrate cleaning device should not have to include in the claims the substrate that is cleaned as this substrate is not part of the apparatus. What is included in the claims is a specific claimed recitation of the structure of the elements; specifically the location of the tube in tube assembly and the

injector. Such elements are specifically located on the device such that when a substrate including a microchannel that has a number of inlets and outlet openings is to be cleaned by the instrument, the tube in tube assembly and injector is able to seal microchannels at both openings such that the microchannel can be cleaned. The independent claims 1, 19, and 33 have been further amended such that this structure of the claimed elements is even more clearly and explicitly claimed. This positive recitation of the claimed structural location of these elements must be given patentable weight.

Nothing cited in the Office action indicates a teaching of the claimed positioning of the tube in tube assembly and the injector in the claimed manner. These two elements are positioned on an arm that may be lowered over a substrate such that the elements may seal a microchannel. The tube in tube assembly may then use the pressurized cleaning solution to clean the microchannels.

Given that this claimed structure is not found in the cited references, the present rejection should be withdrawn. This is a second, independent reason for reconsideration and withdrawal of the instant rejections.

Conclusion

The applicants respectfully request reconsideration in light of the submitted remarks and amendments. A notice of allowance is earnestly solicited. If any matter relating to this case needs to be discussed please call the undersigned attorney at (408) 297-9733 between 9 a.m. and 5 p.m. Pacific time.

Respectfully submitted,



David Schneck

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CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Signed: Merle P. Garcia
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